

APPENDIX F

GENERAL FUEL SPECIFICATIONS

INTENTIONALLY LEFT BLANK

GENERAL FUEL SPECIFICATIONS

The following text, Appendix E of 10 CFR 961 provides the specifications for standard fuel and is included here for ease of reference:

A. Fuel Category Identification

1. **Categories**—Purchaser shall use reasonable efforts, utilizing technology equivalent to and consistent with the commercial practice, to properly classify Spent Nuclear Fuel (SNF) prior to delivery to DOE, as follows:
 - a. *Standard Fuel* means SNF that meets all the General Specifications therefor set forth in paragraph B below.
 - b. *Nonstandard Fuel* means SNF that does not meet one or more of the General Specifications set forth in subparagraphs 1 through 5 of paragraph B below, and which is classified as Nonstandard Fuel Classes NS–1 through NS–5, pursuant to paragraph B below.
 - c. *Failed Fuel* means SNF that meets the specifications set forth in subparagraphs 1 through 3 of paragraph B below, and which is classified as Failed Fuel Class F–1 through F–3 pursuant to subparagraph 6 of paragraph B below.
 - d. Fuel may have “Failed Fuel” and/or several “Nonstandard Fuel” classifications

B. Fuel Description and Subclassification—General Specifications

1. *Maximum Nominal Physical Dimensions.*

	Boiling water reactor (BWR)	Pressurized water reactor (PWR)
Overall Length	14 feet, 11 inches	14 feet, 10 inches.
Active Fuel Length	12 feet, 6 inches	12 feet, 0 inches.
Cross Section¹	6 inches x 6 inches.	9 inches x 9 inches.

¹ The cross section of the fuel assembly shall not include the channel.

NOTE: Fuel that does not meet these specifications shall be classified as Nonstandard Fuel—Class NS–1.

2. *Nonfuel Components.* Nonfuel components including, but not limited to, control spiders, burnable poison rod assemblies, control rod elements, thimble plugs, fission chambers, and primary and secondary neutron sources, that are contained within the fuel assembly, or BWR channels that are an integral part of the fuel assembly, which do not require special handling, may be included as part of the spent nuclear fuel delivered for disposal pursuant to this contract.

NOTE: Fuel that does not meet these specifications shall be classified as Nonstandard Fuel—Class NS–2.

3. *Cooling.* The minimum cooling time for fuel is five (5) years.
NOTE: Fuel that does not meet this specification shall be classified as Nonstandard Fuel—Class NS-3.
4. *Non-LWR Fuel.* Fuel from other than LWR power facilities shall be classified as Nonstandard Fuel—Class NS-4. Such fuel may be unique and require special handling, storage, and disposal facilities.
5. *Consolidated Fuel Rods.* Fuel, which has been disassembled and stored with the fuel rods in a consolidated manner shall be classified as Nonstandard Fuel Class NS-5.
6. *Failed Fuel.*
 - a. *Visual Inspection.*
Assemblies shall be visually inspected for evidence of structural deformity or damage to cladding or spacers which may require special handling. Assemblies which [i] are structurally deformed or have damaged cladding to the extent that special handling may be required or [ii] for any reason cannot be handled with normal fuel handling equipment shall be classified as Failed Fuel—Class F-1.
 - b. *Previously Encapsulated Assemblies.*
Assemblies encapsulated by Purchaser prior to classification hereunder shall be classified as Failed Fuel—Class F-3. Purchaser shall advise DOE of the reason for the prior encapsulation of assemblies in sufficient detail so that DOE may plan for appropriate subsequent handling.
 - c. *Regulatory Requirements.*
Spent fuel assemblies shall be packaged and placed in casks so that all applicable regulatory requirements are met.

C. Summary of Fuel Classifications

1. *Standard Fuel:*
 - a. Class S-1: PWR
 - b. Class S-2: BWR
2. *Nonstandard Fuel:*
 - a. Class NS-1: Physical Dimensions
 - b. Class NS-2: Non Fuel Components
 - c. Class NS-3: Short Cooled
 - d. Class NS-4: Non-LWR
 - e. Class NS-5: Consolidated Fuel Rods.
3. *Failed Fuel:*
 - a. Class F-1: Visual Failure or Damage
 - b. Class F-2: Radioactive “Leakage”
 - c. Class F-3: Encapsulated

D. High-Level Radioactive Waste

The DOE shall accept high-level radioactive waste. Detailed acceptance criteria and general specifications for such waste will be issued by the DOE no later than the date on which DOE submits its license application to the Nuclear Regulatory Commission for the first disposal facility.

INTENTIONALLY LEFT BLANK